

Application No.: 10/823,214

Docket No.: JCLA12708

**REMARKS****Present Status of the Application**

The Office Action rejected Claims 1-4 under 35 U.S.C. 102(b) as being anticipated by Bourgeois et al (US-5,859,520, "Bourgeois" hereinafter). In addition, the Office Action has also rejected Claims 5-9 under 35 U.S.C. 102(b) as being anticipated by Yamauchi et al (US-4,409,526, "Yamauchi" hereinafter). The Office Action rejected Claim 6 under 35 U.S.C. 112, 2nd paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter.

Applicants have amended claims 1-4 and respectfully traverse the rejections addressed to claims 1-9 for at least the reasons set forth below.

The drawings and the specification are also objected to based on a few informalities.

After entry of the claim amendments and traversing of rejections, claims 1-9 remain pending in the present application.

**Discussion of Objections**

FIGs. 1-5 are objected to as failing to comply with 37 CFR 1.84(p)(5) or missing designation of "Prior Art". The drawings FIGs. 1-5 are corrected and are attached in the appendix.

In view of the aforementioned amendments, Applicants respectfully assert that the objections are no longer proper.

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**Discussion of the claim rejection under 35 USC 102**

*The Office Action has rejected Claims 1-4 under 35 U.S.C. 102(b) as being anticipated by Bourgeois et al (US-5,859,520). In addition, Claims 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamauchi et al (US-4,409,526).*

Applicants respectfully traverse the above rejections as set forth below.

By including the feature of **“wherein a non-inverting input is connected via a single direction switch to a free end of a phase at a cathode end”** in Claim 1, Claim 1 should be patentably distinguish over Bourgeois. The aforementioned feature is fully supported in paragraph [0026] in the present invention: “...A voltage comparator P of the position detection circuit E has a non-inverting input connected via a diode d4 to the free end of phase B, and also to an auxiliary +5V voltage supply by a resistor R....” and in FIG. 5 in the present invention as d4 connecting to P. Not only that Bourgeois does not include the aforementioned “diode” at the same location as mentioned in the present invention, FIG. 5 in Bourgeois shows a resistor R (instead of a diode) connected to the voltage comparator and the free end of a phase. As a result, Claim 1 should be allowed since Bourgeois does not disclose, suggest, or teach the aforementioned “diode” connected to the “comparator” and “free end of a phase at a cathode end”.

Furthermore, dependent Claim 2 should also be allowed pending the allowance of Claim 1.

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By including the feature of **“wherein a non-inverting input is connected via a diode to a free end of a phase at a cathode end”** in Claim 3, Claim 3 should be patentably distinguish over Bourgeois. The aforementioned feature is fully supported in paragraph [0026] in the present invention: “...A **voltage comparator P** of the position detection circuit E has a **non-inverting input connected via a diode d4 to the free end of phase B**, and also to an auxiliary +5V voltage supply by a resistor R.... “ and in FIG. 5 in the present invention as d4 connecting to P. Not only that Bourgeois does not include the aforementioned “diode” at the same location as mentioned in the present invention, FIG. 5 in Bourgeois shows a resistor R (instead of a diode) connected to the voltage comparator and the free end of a phase. As a result, Claim 3 should be allowed since Bourgeois does not disclose, suggest, or teach the aforementioned “diode” connected to the “comparator” and “free end of a phase at a cathode end”.

Furthermore, dependent Claim 4 should also be allowed pending the allowance of Claim 3.

In response to the USC 102(b) rejection of Claim 7 based upon Yamauchi, the following feature in Claim 7 in the present invention: “when the zero crossing point is not detected, the method is terminated” is not taught, disclosed, or suggested in Yamauchi. Furthermore, the following is recited in col. 12, lines 35-37 of Yamauchi: “.. **pulse P<sub>FG</sub>** is no longer produced by Schmitt trigger circuit 43 and, hence, normal operation of the motor cannot continue...” and in FIG. 8C of Yamauchi in which the **pulse P<sub>FG</sub>** is shown to be different from the “zero crossing point” detection method taught in the present invention. As a result, it is evident that Claim 7 is

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patentably distinguish over Yamauchi. Therefore, the Applicants shall amend Claim 5 to include the aforementioned feature of Claim 7 and cancel Claim 7. As a result, Claims 5, 6, 8, and 9 should then be allowed.

**Discussion of the claim rejection under 35 USC 112**

*The Office Action has rejected Claim 6 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*

Applicants respectfully traverse the above rejections as set forth below.

Claim 6: "The method of claim 5, further comprising **step of determining again whether a time of a zero crossing point when the rotor speed is larger than the lower speed.**" is fully supported in paragraph [0013] of the present invention: "In the above method , **whether a time of a zero crossing point is determined again when the rotor speed is larger than the lower speed.** When the zero crossing point is not detected, the method is terminated. The control signal is a pulse width modulation (PWM) signal. In step of resetting the frequency, the frequency is reset to a normal operation frequency." In addition, the actual implementation of Claim 6 is clearly point out in step (100) "time to ZCP detecting" and step (110) "speed < lower speed" in FIG. 7 of the present invention. Therefore, Claim 6 should be allowed.

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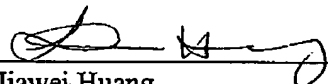
**CONCLUSION**

For at least the foregoing reasons, it is believed that all the pending claims 1-9 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Date: 10/5/2005

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